Body Image Distress and Cyberbullying Among Adolescent Girls in the U.S.

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Abstract - Online discourse about appearance and body image frequently triggers targeted harassment and cyberbullying behaviors on social media platforms. Using text mining, this study examined the prevalence and nature of cyberbullying directed at adolescent girls' body image on TikTok in the U.S. Analysis of 80,954 comments from 50 TikTok videos revealed that non-cyberbullying comments occurred significantly more than expected (92.6%), while cyberbullying represented 7.4% of total interactions. Among cyberbullying behaviors, body shaming dominated responses (41.68%), followed by insults (24.78%) and teasing (21.26%), while comparison attacks, nickname labeling, and clothing/style shaming occurred less frequently. Topic modeling revealed five distinct themes: Appearance Monitoring, Body Commentary, Positive Affirmations, Social Comparison, and Identity Confusion. Sentiment analysis demonstrated predominantly neutral responses, followed by positive sentiment, with negative sentiment constituting the smallest category. These findings demonstrate that while overt cyberbullying remains relatively infrequent due to platform moderation, appearance-focused content creates environments where body shaming becomes the predominant harmful behavior, requiring targeted federal intervention strategies.

Keywords- Body shaming, Cyberbullying, Adolescent girls, TikTok, Online harassment

I. INTRODUCTION

Body image-related cyberbullying represents a critical national public health challenge affecting millions of U.S. adolescent girls, with direct implications for federal digital safety policy and mental health initiatives. Research indicates that body image-related cyberbullying (BRC) has serious impacts on adolescent females, targeting aspects such as body weight, shape, and size, and can exacerbate body dissatisfaction while leading to maladaptive eating behaviors among young girls (Prince et al., 2025). This form of harassment aligns with current federal priorities outlined in the Kids Online Safety Act and Surgeon General's Advisory on Social Media and Youth Mental Health, which emphasize the need for evidence-based research on platform-specific risks to vulnerable populations. Appearance-related cyberbullying (ARC) prevalence results in negative psychological outcomes, with victims experiencing increased body shape concerns, body shame, and disordered eating symptoms that diminish body esteem and prompt appearance alteration behaviors including dieting, exercising, or cosmetic procedures (Prince et al., 2024). The economic burden of these mental health consequences creates substantial costs for national healthcare and educational systems, while social media's influence plays a critical role in shaping body image concerns through regular exposure to idealized images that contribute to body dissatisfaction and validation-seeking behaviors on platforms used by approximately 32 million U.S. adolescents (Papageorgiou et al., 2022).

Within the U.S. context, body image distress among adolescent girls exposed to cyberbullying is influenced by platform-specific factors that have direct implications for federal digital safety policy and regulatory frameworks. Moreover, research underscores that adolescent girls suffering from depression are more vulnerable to cyberbullying, as they tend to engage in more social media activities while perceiving social support as insufficient and experiencing higher levels of cyber victimization (Göksu et al., 2024). The exposure to

social networking sites like Facebook, TikTok, and MySpace significantly correlates with body image concerns, as these platforms promote the thin ideal and encourage body surveillance, leading to a drive for thinness among adolescent girls (Tiggemann & Slater, 2013; Tiggemann & Slater, 2014). Cyberbullying exacerbates these issues by directly impacting body image and cognitive schemas, which can lead to increased depressive symptoms, with victims often developing negative body image and beliefs in their own defectiveness that mediate the relationship between cyberbullying and depression, particularly in girls (Calvete et al., 2016). The sociocultural model suggests that internalization of the thin ideal, perpetuated by media exposure, mediates the Internet's effect on body image concerns, making adolescent girls more susceptible to body dissatisfaction and related mental health issues (Tiggemann & Slater, 2014; Charmaraman et al., 2021). The intersection of these risk factors with TikTok's algorithm-driven content delivery creates unique challenges for U.S. regulatory agencies tasked with protecting adolescent users from harmful content exposure.

Although existing research highlights the prevalence of appearance-related bullying and its detrimental effects on adolescent girls' mental health, a critical gap remains in understanding how diverse forms of online harassment on TikTok specifically shape body image and contribute to mental health outcomes among U.S. adolescents. This knowledge gap has direct implications for federal policy implementation, as agencies including the Federal Trade Commission, Department of Health and Human Services, and Department of Education require platform-specific evidence to develop effective regulatory frameworks and intervention strategies. Given TikTok's central role in adolescent social life and identity formation, coupled with ongoing federal investigations into the platform's youth safety practices, addressing this research gap is essential for developing targeted, evidence-based interventions that support national digital safety priorities. The research directly informs federal initiatives including KOSA implementation, FTC youth protection enforcement, and national mental health strategy development, thereby advancing public health priorities while providing actionable evidence for protecting vulnerable populations in digital environments.

Research Questions

1. What is the extent and style of cyberbullying directed at U.S. adolescent girls' body image when they post content on TikTok?
2. What is the overall sentiment expressed by users towards adolescent girls' body image when they post content on TikTok?
3. What are the most frequently discussed topics related to body image and appearance within these cyberbullying interactions on TikTok?

II. BACKGROUND

Body image distress among U.S. adolescent girls represents a significant national public health crisis with substantial economic implications for federal healthcare and educational systems. Research across diverse U.S. contexts reveals complex interactions between body dissatisfaction, psychological distress, and contributing factors that create estimated healthcare costs (Abaatyo et al., 2024; Ahorsu et al., 2023; Toselli et al., 2022; Collison & Harrison, 2020; Linardon et al., 2021). In the United States, body dissatisfaction among adolescent girls is shaped by psychological, social, and cultural influences that require targeted federal intervention strategies. Social comparison plays a central role, as adolescents frequently engage in appearance-based comparisons that lead to internalization of thin and muscular ideals, heightening body dissatisfaction (Barbierik et al., 2023). Family dynamics contribute through negative comments and teasing from siblings that directly and indirectly increase body dissatisfaction (Johnson & Salafia, 2022), while social media intensifies these comparisons by constantly presenting idealized and sexualized images that reinforce the perception that physical appearance determines self-worth (Papageorgiou et al., 2022). Cultural norms in Western societies promote thin ideals that are widely internalized through media and social interactions, creating cycles of dissatisfaction and body alteration efforts (Zhang et al., 2023). The psychological impact is substantial, with evidence linking body dissatisfaction to increased rates of depression and anxiety disorders among adolescents, creating significant demands on national mental health resources (Hong & Ahmad, 2024; Mclean et al., 2021). These findings demonstrate how multiple intersecting factors create environments that predispose adolescent girls to body dissatisfaction, highlighting the urgent need for targeted prevention and intervention strategies that align with federal digital safety priorities.

Social media platforms such as Instagram and TikTok play significant roles in shaping adolescent girls' body image by promoting unrealistic beauty standards and encouraging constant appearance-based comparisons, creating challenges for federal regulatory agencies tasked with youth protection. The highly visual and interactive nature of these platforms leads to frequent exposure to idealized images that negatively influence self-perception and increase body dissatisfaction among approximately 32 million U.S. adolescents who use these platforms (Massarat et al., 2022; Syaifussalam et al., 2024). Research consistently shows strong links between social media use, particularly on Instagram and TikTok, and heightened eating disorder pathology, appearance-related pressure, and negative body image outcomes among adolescents, with girls being especially vulnerable to platform-specific algorithmic amplification of

harmful content (Dahlgren et al., 2024). The internalization of idealized beauty norms contributes to more frequent appearance comparisons that intensify body dissatisfaction and undermine self-esteem (Kvardová et al., 2025), while reinforcing societal expectations that privilege narrow and unrealistic body ideals (Cayla et al., 2023). These dynamics directly inform ongoing Federal Trade Commission investigations (Children's online privacy protection rule, 2013, January) and Kids Online Safety Act (Kids Online Safety Act, 2023) implementation, as social media interactions shape adolescents' self-confidence with negative outcomes emerging when users compare themselves unfavorably to others (Syaifussalam et al., 2024). Appearance-based comparisons worsen body image concerns, emphasizing the importance of evidence-based interventions that support federal initiatives to foster media literacy and promote healthier online environments (Papageorgiou et al., 2022; Sukamto et al., 2019). These findings underscore the urgent need for interventions that address harmful social media effects on adolescent girls' body image while supporting federal digital safety strategies and regulatory frameworks.

Body-related cyberbullying significantly affects the emotional and mental health of U.S. adolescents, creating substantial costs for national healthcare and educational systems while requiring coordinated federal intervention strategies. This form of bullying is closely linked to body dissatisfaction, eating disorders, heightened body shape concerns, body shame, and desires to alter appearance through dieting, exercise, or cosmetic procedures, with victims reporting lower levels of body esteem and body appreciation that create long-term healthcare utilization patterns (Prince et al., 2024; Prince et al., 2025). Research consistently shows strong associations between body-related cyberbullying and mental health concerns including depression, social anxiety, and suicidal ideation, with economic impacts extending beyond direct victims to include witnessing effects that increase depressive symptoms and social anxiety in elementary school students and suicidal ideation in middle school students through internalizing symptoms (Wang, 2021; Doumas & Midgett, 2020; Doumas & Midgett, 2022). The psychological toll extends to academic performance and long-term emotional well-being, contributing to lower happiness and life satisfaction levels while increasing sadness and worry, creating educational disruption costs (Halliday et al., 2023). Age factors influence outcome severity, with mental health effects becoming more pronounced as adolescents develop, highlighting the critical need for prevention strategies that align with federal initiatives including age-appropriate social media policies, national mental health promotion programs, and comprehensive frameworks like the SHIELD model that advocate for holistic approaches to reducing bullying and fostering resilience in youth populations (Lee et al., 2025; Prince et al., 2024; Dailey & Roche, 2025). These findings demonstrate the urgent need for coordinated federal responses that address body-related cyberbullying through evidence-based policy development and targeted intervention strategies supporting national digital safety and youth mental health priorities.

III. METHODOLOGY

This study employed a mixed-methods approach to examine online discourse related to body image and self-presentation among adolescent girls on TikTok. It combined qualitative content analysis with text mining techniques to capture both the contextual depth and broader patterns within the data.

Data Collection

Data collection focused on TikTok videos identified using a defined set of appearance-related hashtags, with comments subsequently extracted via exportcomments.com (https://exportcomments.com/). Specifically, eight hashtags were used to identify relevant posts: #WhatIEatInADay, #BodyCheck, #TeenWorkout, #GlowUp, #FitnessJourney, #BodyPositivity, #Thinspo, and #HotGirlSummer. These hashtags were selected for their strong associations with fitness, beauty, and self-esteem content commonly circulated within adolescent-focused TikTok communities. A purposive sampling strategy was used to select videos created by users identified as adolescent girls based in the United States. Proxy indicators for identifying teen users included bios listing age or school year (e.g., "17 y/o," "Class of 2025"), usernames suggesting teen identity, and content referencing school life, prom, or exams. Location was further confirmed using geotags or textual references to U.S. cities, states, or schools. Sampling was stratified by account type to include regular teen users with low follower counts, micro-influencers (1,000 to 10,000 followers), and high-visibility accounts with over 100,000 followers. Care was taken to include visible indicators of racial, body type, and geographic diversity based on both visual and textual cues. Videos containing news clips, brand promotions, or overtly political content were excluded to focus on peer-driven content and authentic user interactions. A total of 50 TikTok videos were collected, all posted by adolescent girls. All publicly available comments from these 50 videos were extracted separately for analysis, resulting in a dataset of 80,954 user responses.

Codebook Development

Using NVivo (version 24), an inductive coding method was employed to manually analyze 2,000 randomly sampled user comments from TikTok videos featuring appearance-related content. This approach allowed patterns and themes to emerge organically from the dataset rather than relying on predetermined categories. The process began with open coding, in which each comment was reviewed

line by line and assigned initial codes capturing key words, expressions, or emotional tones. These codes reflected the language and meanings expressed by users. Codes with overlapping or similar meanings were then consolidated and refined into broader thematic categories through multiple rounds of iterative review. This recursive process supported the development of themes that captured adolescent girls' experiences with body image and self-presentation on TikTok. Coding labels and definitions were refined throughout the process to ensure interpretations remained grounded in the data and contextually accurate. To enhance reliability, two independent coders conducted the analysis and achieved an interrater agreement of 81%. Table 1 provides an overview of the types of bullying behaviors identified. This qualitative coding framework informed subsequent large-scale text mining in R, enabling a systematic examination of response patterns across all 80,954 user comments.

Types of cyberbullying	Definition	Examples
Insult	Straightforward negative comment about appearance or character	"You're fat", "Ugly as hell", "You look nasty", "You're built wrong"
Teasing	Sarcastic, jokey, or meme-like meant to ridicule	"This a joke right?", "💀💀💀", "Girl be fr", "You ate… and it shows"
Body shaming	Criticism for being too thin, underdeveloped, overweight, not conforming to thin norms.	"Eat a burger", "You look like a stick", "She's built like a 12-year-old"
Clothing/Style shaming	Judging someone's fashion, makeup, or outfit choice	"Who let her wear that?", "Walmart Kylie", "That makeup ain't it"
Nickname labeling	Assigning cruel nicknames	"Botox Barbie", "Toothpick Tina", "BBW Barbie", "Mr. Potato Head"
Comparison attack	Comparing the target unfavorably to others or beauty ideals	"Not everyone can be Addison Rae", "Budget Charli", "Fake Kim K"

Table 1. Codebook

IV. DATA ANALYSIS

Keyword Matching

Data preprocessing was conducted using the R packages dplyr (Wickham et al., 2023) and stringr (Wickham, 2022). Each comment in the dataset received a unique identifier through the row_number() function to facilitate systematic tracking and organization. To categorize comments, regular expressions were used to identify specific word patterns and phrases associated with appearance-related bullying behaviors. The keyword lists for classification were developed directly from the inductive qualitative analysis outlined above, ensuring that the computational categorization accurately reflected the language and expressions used by TikTok users in appearance-focused contexts. A rule-based classification system was designed to assign comments to six thematic groups: Insult, Teasing, Body Shaming, Clothing/Style Shaming, Nickname Labeling, and Comparison Attack. This classification was implemented using the case_when() function combined with str_detect() in R, enabling sequential evaluation of each comment against the predefined keyword lists. Comments were assigned to the first matching category identified, with those not matching any category labeled as Non-cyberbullying. This approach ensured that the text mining remained closely connected to user-generated language patterns identified through systematic qualitative analysis, providing both methodological rigor and contextual relevance. The rule-based method offered a reliable and scalable way to detect and quantify distinct types of appearance-related bullying within the dataset, forming the foundation for subsequent quantitative analysis of comment tone and bullying prevalence in TikTok appearance-related content.

Category	Selected Keywords/Phrases
Insult	ugly, disgusting, hideous, gross, nasty, creepy, worthless, stupid, idiot, moron, pathetic, freak, dumb, trash, loser, repulsive, vile, lame, clown, garbage, cringe, ew, yikes, disaster, mess, horrible
Teasing	lol, womp womp, skill issue, cope, slay queen, period, ate that, no cap, fr fr, bestie, girlie, queen, iconic, living for this, serving looks, main character, pick me, not you, the audacity, tell me you're joking, this ain't it chief
Body Shaming	fat, obese, skinny, anorexic, bones, double chin, lose weight, too thin, eat a burger, plus size, chubby, bloated, rolls, stick figure, curves, skeleton, thunder thighs, beer belly, whale, twig, porky, muffin top, flabby, gain weight, faddie, baddie
Clothing/Style Shaming	what are you wearing, bad fashion, ugly outfit, cringe makeup, outfit fail, style disaster, basic look, outfit choice, cheap, bad taste, unfashionable, tacky, outdated, mismatched, try harder, fashion sense, questionable style, walmart, discount, budget version
Nickname Labeling	fatty, twig, porky, miss piggy, beanpole, barbie, skeleton queen, fridge body, bobblehead, stick insect, gremlin, big back, case oh, big justice, rizzler, gyatt, ohio, sigma, alpha, main character, pick me girl

Comparison Attack	looks better than you, she's hotter, not as pretty, bootleg version, discount version, walmart edition, before vs after, you vs, she won, you lost, upgrade, downgrade, could never, wish i looked like, body goals, face card, glow up, level up, ate and left no crumbs

Table 2. Keyword matching

Sentiment Analysis

Sentiment analysis was conducted on the entire dataset of 80,954 user comments related to appearance-centered TikTok content. The analysis included all comments collectively, without separating subgroups. Data preprocessing and analysis were carried out using R (R Core Team, 2023). The comment text was tokenized into lowercase words using the unnest_tokens() function from the tidytext package (Silge & Robinson, 2016). Common English stop words such as "the," "and," and "is" were removed to focus the analysis on meaningful terms. Sentiment classification utilized the Bing Liu lexicon (Hu & Liu, 2004), which categorizes words as either positive or negative. Tokenized words were joined with the sentiment lexicon via inner joins to extract sentiment-bearing vocabulary. Sentiment scores at the comment level were calculated by comparing the proportion of positive to negative words, leading to classifications of positive, negative, or neutral sentiment. The classification followed accepted threshold guidelines, where comments with equal counts of positive and negative words were labeled neutral, comments with more positive words were labeled positive, and those with more negative words were labeled negative (10e, 2018, August 10). This method aligns with standard practices in sentiment analysis, where neutral serves as the baseline for comments lacking clear positive or negative polarity (Wikipedia contributors, 2025, July 26). The three-category system (positive, negative, neutral) is widely used in sentiment research, providing clear differentiation of emotional tone while accounting for non-evaluative content (Nandwani & Verma, 2021). A word cloud was also generated to depict the most prominent vocabulary patterns throughout the dataset. Sentiment distribution was analyzed to quantify the relative occurrence of each emotional category, with findings presented through bar charts showing the overall emotional tone of user comments related to adolescent appearance content on TikTok.

Topic Modeling

Latent Dirichlet Allocation (LDA) topic modeling was applied to the complete dataset of 80,954 user comments to identify underlying thematic structures related to body image and appearance-based discourse on TikTok. The analysis was conducted on all comments combined to capture broad discussion patterns. Text preprocessing was carried out in R (R Core Team, 2023) using the tm package (Feinerer & Meyer, 2008) for data cleaning and preparation. Comments were systematically processed by converting all text to lowercase, removing punctuation and numeric characters, eliminating standard English stop words, and normalizing whitespace. Entries with no meaningful content after preprocessing were removed to ensure the accuracy of results. A Document-Term Matrix (DTM) was then generated to represent term frequency distributions across the dataset. LDA modeling was performed using the topicmodels package (Grün & Hornik, 2011), with the number of topics set at five based on evaluation of perplexity scores and topic coherence metrics, established methods for optimizing topic models that balance interpretability with predictive performance (Gan & Qi, 2021; Zhao et al., 2015). This procedure follows standard practice in topic modeling, in which different topic numbers are tested to identify the best balance between model complexity and thematic clarity (Zhao et al., 2015). The five-topic solution offered stability and clear separation of themes, consistent with recommendations for datasets of this size and nature (Gan & Qi, 2021). A fixed random seed was used to ensure reproducibility. For interpretation, the ten terms with the highest probability (β values) were extracted for each topic. Visualization of these top terms was produced with the ggplot2 package (Wickham, 2016), providing a clear representation of the dominant lexical patterns and thematic structures in appearance-related TikTok comment discourse.

V. FINDINGS

1. What is the extent and style of cyberbullying directed at U.S. adolescent girls' body image when they post content on TikTok?

On TikTok, significantly more non-cyberbullying comments on posts about adolescent girls' body image were found than cyberbullying comments, χ^2 (1, N = 80,954) = 31,683.15, $p < .001$. Body shaming was the most common cyberbullying tactic (41.68% of all cyberbullying comments), followed by insult (24.78%), teasing (21.26%), comparison attack (10.43%), nickname labeling (1.34%), and clothing/style shaming (0.51%). A chi-square test of independence was performed to examine the relationship between the different cyberbullying tactics. The results were statistically significant, χ^2 (5, N = 6,024) = 1,802.45, $p < .001$, with significantly more body shaming and insult tactics and significantly less teasing, comparison attack, nickname labeling, and clothing/style shaming than any of the other cyberbullying tactics. Based on the adjusted standardized residuals with critical value ±1.96, body shaming and insult were used significantly more on TikTok than expected, while comparison attack, nickname labeling, and clothing/style shaming were used significantly less than expected.

Tactic	Non-cyberbullying		Cyberbullying			X^2	*df*	*N*	*p*
	#	%	#	%	Adjusted standardized residuals				
Body Shaming			2,511	41.68	47.56	1,802.45	5	6,024	< 0.001
Insult			1,492	24.78	15.40				
Teasing			1,281	21.26	8.74				
Comparison Attack			628	10.43	-11.86				
Nickname Labeling			81	1.34	-29.13				
Clothing/Style Shaming			31	0.51	-30.71				
Total	74,930	92.60	6,024	7.40		31,683.15	1	80,954	< 0.001

Table 3. The extent and style of cyberbullying on TikTok.

2. What is the overall sentiment expressed by users towards adolescent girls' body image when they post content on TikTok?

The analysis revealed significantly more neutral sentiment expressed towards adolescent girls' body image content on TikTok than positive or negative sentiment. Neutral comments comprised the largest proportion of user responses, followed by positive sentiment, while negative sentiment constituted the smallest category of responses. The sentiment distribution demonstrated that users predominantly responded with non-judgmental reactions to body image posts.

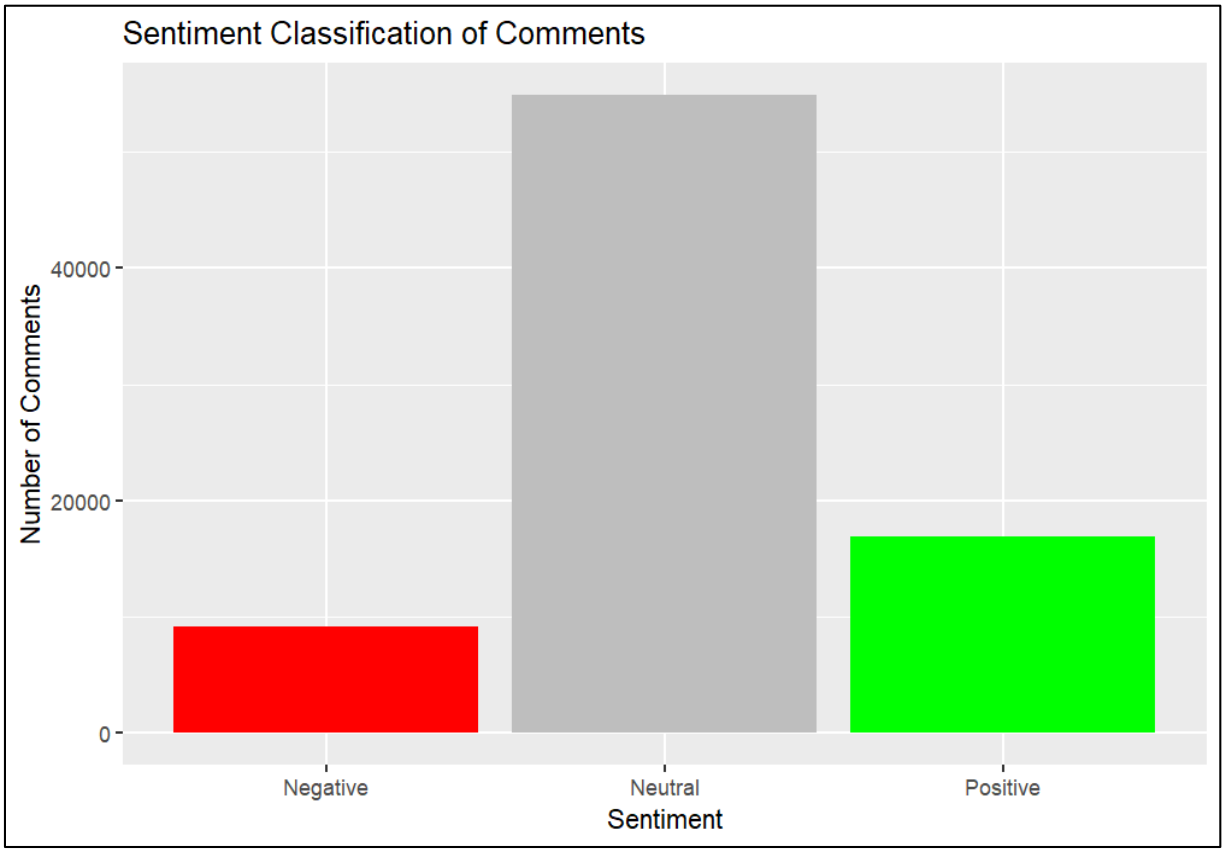

Figure 1. User sentiments

The word cloud analysis showed the most frequently used terms across all comments. The most prominent words included "girl," "amazing," "pretty," "love," "eat," "body," and "proud," indicating that discussions frequently centered on appearance-related compliments and body-positive language. Other notable terms included "beautiful," "gorgeous," "queen," "strong," and "healthy," suggesting supportive discourse around physical appearance and wellness. Food-related terms such as "eat," "food," "diet," and "weight" also appeared prominently, reflecting the connection between body image discussions and eating behaviors in the comment sections.

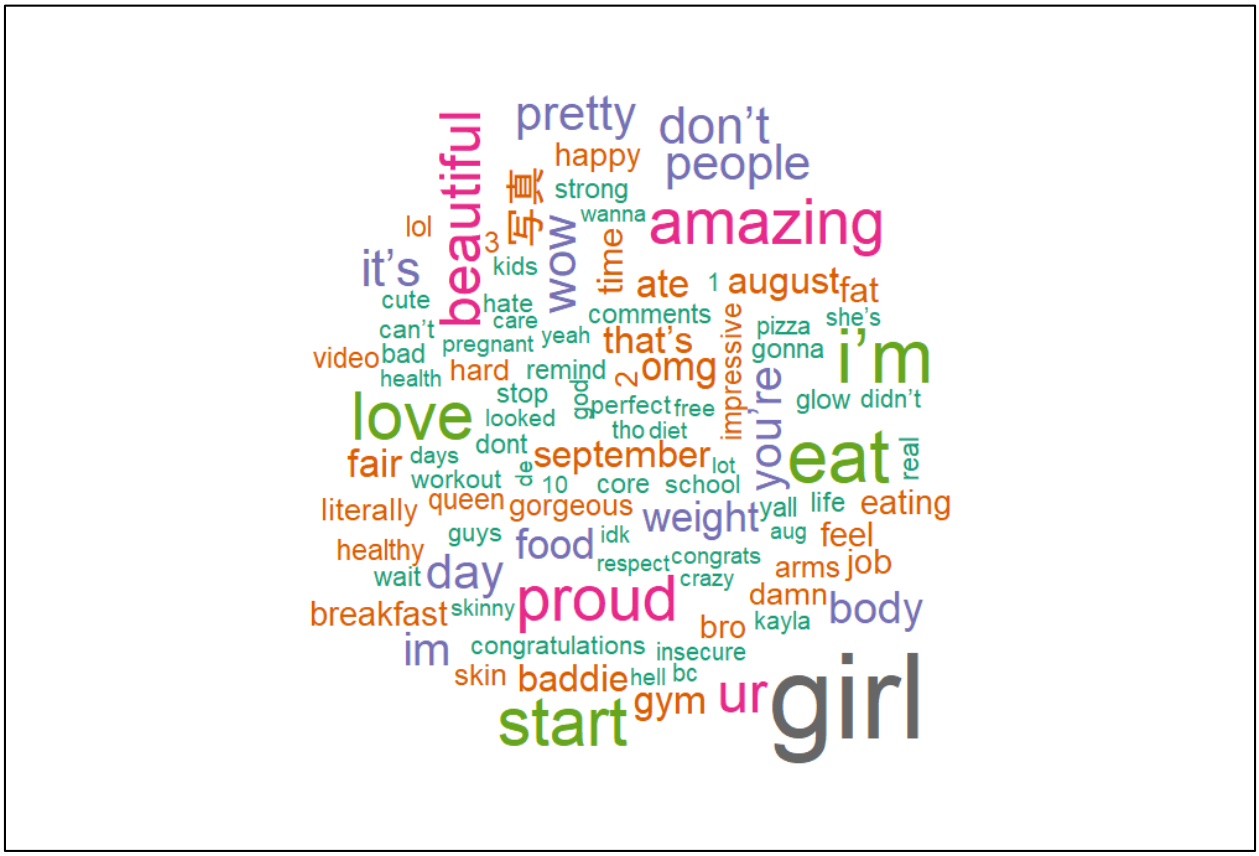

Figure 2. Word cloud

3. What are the most frequently discussed topics related to body image and appearance within these cyberbullying interactions on TikTok?

The analysis revealed that the most frequently discussed topics related to adolescent girls' body image and appearance within cyberbullying interactions on TikTok encompassed five distinct categories. Appearance Monitoring discussions centered on scrutinizing and evaluating adolescent girls' physical appearance and daily routines. Body Commentary represented direct comments and observations about their physical attributes and bodily characteristics. Positive Affirmations emerged through supportive and encouraging language directed toward adolescent girls within the interactions. Social Comparison discussions involved comparative statements about appearance and behaviors between adolescent girls. Identity Confusion reflected uncertainty and questioning related to self-perception and identity formation in relation to adolescent girls' body image. These topics collectively demonstrate the multifaceted nature of body image discourse within cyberbullying contexts on the platform, encompassing both harmful and supportive interactions around adolescent girls' physical appearance.

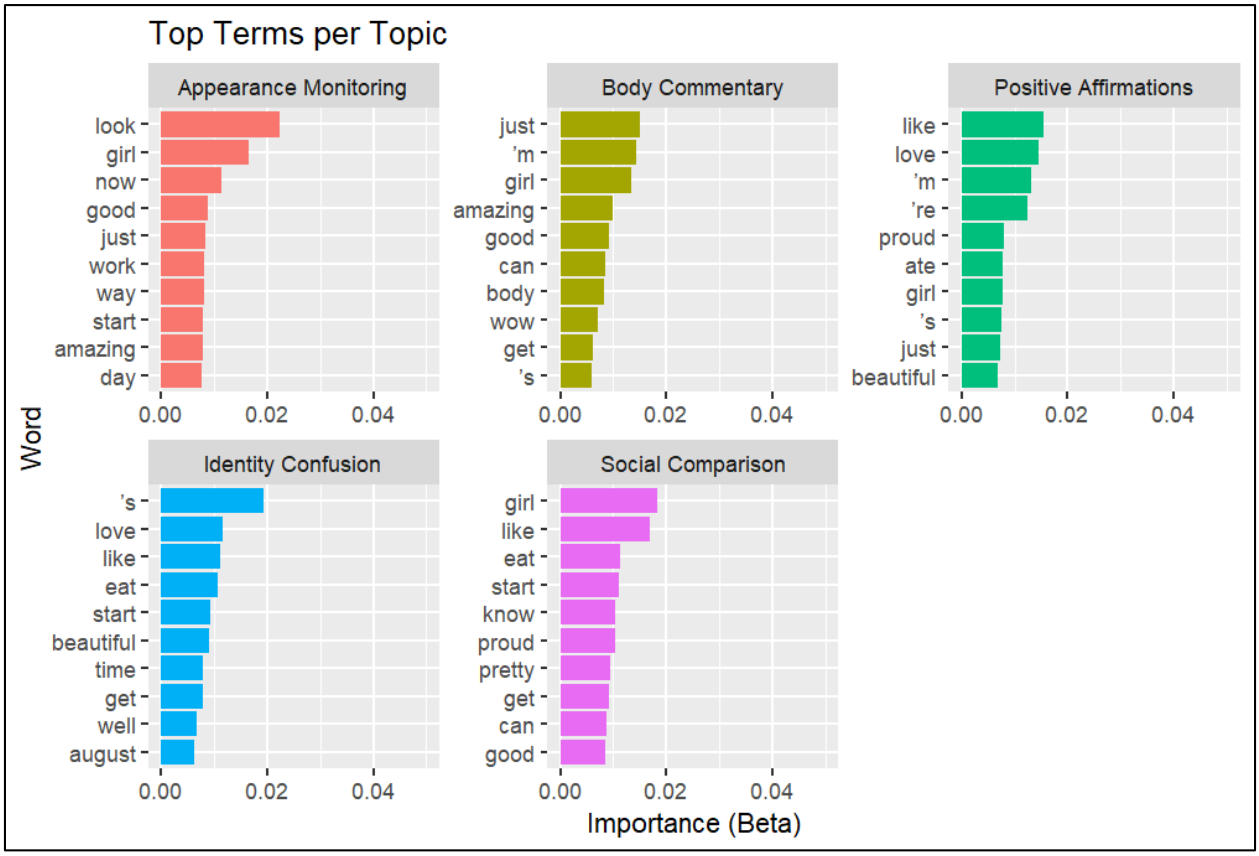

Figure 3. Topics discussed

VI. DISCUSSION

This section begins by discussing the differences observed in both the extent and style of cyberbullying comments directed at adolescent girls' body image. It then presents the results of the sentiment analysis and explores the key themes that emerged from user comments. Notably, the findings revealed that non-cyberbullying comments were significantly more prevalent than cyberbullying comments in discussions related to adolescent girls' body image on TikTok. The lower frequency of cyberbullying comments observed may be attributed to the platform's moderation practices and enforcement of community guidelines. Social media platforms often implement automated moderation systems to detect and limit the visibility of content that violates their rules. Such systems have been shown to promote greater adherence to community standards by reducing repeat violations, particularly in relation to sensitive topics (Ribeiro et al., 2022). Body shaming and insults were used significantly more often than expected toward adolescent girls' body image on TikTok, while comparison attacks, nickname labeling, and clothing/style shaming were used significantly less often than expected. Body image remains a central focus in youth-oriented social media spaces (Barbierik et al., 2023). On TikTok, the algorithm often promotes videos that emphasize appearance, trends, and beauty standards, making physical looks more visible and, consequently, more susceptible to criticism (Tiggemann & Slater, 2013; Tiggemann & Slater, 2014). This heightened visibility increases the likelihood that users will target body-related features rather than other aspects such as clothing or nicknames. Societal expectations around femininity and physical appearance further intensify this dynamic. For adolescent girls, these expectations are a significant source of stress and self-objectification, contributing to issues such as social avoidance and low self-esteem (Guo & Wu, 2023). Entrenched gender norms continue to equate female value with physical attractiveness, creating social contexts in which girls feel pressure to conform to narrow beauty ideals. These norms not only shape how girls perceive themselves but also how others evaluate and comment on them online. Such socialized biases may explain why body shaming and insults appear more frequently than other forms of derogatory commentary on TikTok. The sentiment analysis revealed significantly more neutral sentiment expressed towards adolescent girls' body image content on TikTok than positive or negative sentiment. Social media users may intentionally use neutral language to avoid criticism, backlash, or moderation. On platforms like TikTok, users have developed linguistic innovations to circumvent content moderation, particularly

when discussing sensitive topics such as race, gender, and sexuality. This practice, while initially a response to potential censorship, has evolved into a form of creative expression and social commentary, reflecting users' sociopolitical alignments (Calhoun & Fawcett, 2023). Where users perceive their content as being suppressed without explicit notification, they adapt their behavior to avoid potential moderation, further indicating a strategic use of language to maintain engagement (Delmonaco et al., 2024). These dynamics may explain why neutral sentiment appears disproportionately in body image discussions, as users balance the desire to comment with the need to avoid triggering moderation systems or social backlash. Building on these findings, the following section outlines key policy implications that can guide federal platform regulation, national youth protection initiatives, and evidence-based prevention strategies to address cyberbullying within gamified social media environments.

Policy Implications and National Relevance

This research demonstrates strong alignment with federal digital safety priorities, particularly the Kids Online Safety Act (2023) and ongoing Federal Trade Commission investigations into youth protection on social media platforms (Children's Online Privacy Protection Rule, 2013). The finding that body shaming constitutes 41.68% of cyberbullying comments provides essential evidence supporting KOSA's duty of care requirements, which mandate that platforms prevent harm to users under 17, while the documented prevalence of appearance-based harassment targeting adolescent girls offers specific guidance for developing platform accountability policies that require safeguards preventing exposure to content promoting self-harm behaviors. These results directly support the Surgeon General's 2023 Advisory on Social Media and Youth Mental Health (U.S. Public Health Service, 2023), which emphasizes the importance of researching how platform features affect adolescent mental health, with the study's neutral sentiment findings providing nuanced evidence for understanding both beneficial and harmful aspects of social media engagement among youth populations. The implications extend beyond digital spaces, creating significant economic consequences for national healthcare and educational systems, as the Centers for Disease Control and Prevention documents that bullying results in physical injury, emotional distress, self-harm, and death while linking to increased risks of depression, anxiety, sleep difficulties, lower academic achievement, and school dropout (CDC, 2024). With cyberbullying rising alongside technological advances, many states have incorporated cyberbullying offenses into legal frameworks, empowering schools to take disciplinary actions when bullying affects student performance (U.S. Department of Health and Human Services, n.d.). Given that approximately 32 million U.S. adolescents use TikTok, this study's documentation of harassment patterns within appearance-focused content provides foundation for targeted prevention efforts that could generate substantial cost savings by mitigating cyberbullying's harmful effects (Massarat et al., 2022). The research demonstrates that 92.6% of comments were non-cyberbullying, suggesting that evidence-based interventions targeting the specific 7.4% of harmful interactions could efficiently improve platform safety without compromising user engagement. This research offers actionable insights for federal agencies including the Department of Justice's Internet Crimes Against Children Task Force and the Federal Communications Commission's platform regulation initiatives, supporting evidence-based policy responses to digital safety challenges affecting American youth through mixed-methods methodology that provides quantitative evidence for regulatory decision-making and qualitative insights for developing culturally responsive intervention strategies addressing specific language patterns and harassment techniques documented in adolescent social media interactions.

VII. LIMITATION

TikTok-specific focus limits generalizability to other social media platforms with different algorithmic and interaction systems. Furthermore, relying on proxy age indicators rather than verified documentation may introduce sampling bias affecting generalizability.

VIII. CONCLUSION

This study addresses a gap in the literature on cyberbullying comments directed at adolescent girls in the U.S. body image on TikTok. This study is significant because it examines a largely underexplored intersection of gender, adolescence, and platform specific harassment dynamics. By focusing on body image related cyberbullying toward adolescent girls on TikTok, it reveals how appearance-based norms, algorithmic visibility, and user behaviors interact. These insights can guide targeted interventions, moderation policies, and digital literacy efforts. On TikTok, significantly more non-cyberbullying comments on posts about adolescent girls' body image were found than cyberbullying comments. Body shaming and insults were used significantly more often than expected toward adolescent girls' body image on TikTok, while comparison attacks, nickname labeling, and clothing/style shaming were used significantly less often than expected. Sentiment analysis revealed significantly more neutral sentiment expressed towards adolescent girls' body image content on TikTok than positive or negative sentiment.

Future research could explore how different types of cyberbullying impact adolescent girls' mental health over time, using longitudinal designs. Furthermore, studies could examine how cultural and regional differences shape experiences of body image harassment on social media.

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